

**REMARKS**

In response to the Office Action of September 29, 2003, Applicants have carefully considered the rejections of the Examiner in the above-identified application. In light of this consideration, Applicants believe that the claims as amended remain allowable. Applicants respectfully request reconsideration of the rejection of the claims now pending in the application.

In the first Office Action of March 31, 2003, claims 1-3, 9, 13, and 14, are provisionally rejected under the judicially created doctrine of obviousness-type double patenting over co-pending patent 09/362,022. Claims 1-3, 9, 13, and 14 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,555,557, to Mailloux (hereinafter Mailloux). Claims 4-8, 10-12, and 15-17 are rejected under 35 U.S.C. §103(a) as being obvious over Mailloux and further in view of the Applicants' cited well-known art.

In this second Office Action of September 29, 2003, claims 1-17, are rejected under 35 U.S.C. §112 second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Claims 9, and 13, are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,818,504, to Chung et al. (hereinafter Chung). Claims 1-3 are rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 4,847,641, to Tung and in further view of Chung. Claims 4-8 are rejected under 35 U.S.C. §103(a) as being obvious over Tung and in further view of Chung and further in view of the Applicants' cited well-known prior art. Claims 10-12, and 15-17, are rejected under 35 U.S.C. §103(a) as being obvious over Chung and further in view of the Applicants' cited well-known prior art. Claim 14 is rejected under 35 U.S.C. §103(a) as being obvious over Chung and further in view of U.S. Patent No. 6,181,438, to Bracco (hereinafter Bracco).

Claims 1-17 are rejected under 35 U.S.C. §112 second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant's regard as the invention. In particular regarding claim 1, the Examiner found no support in the specification for the claim usage of the word "replacement". However, usage of "replaced...an auxiliary pixel" is found in the specification on page 8 line 14. For those skilled in the art the "replacement" of a pixel is synonymous with "substituted" as found and used on page 8, line 8, and page 13, line 32; or "insertion" page 11, line 8, and page 13 line 7; or "embed" as found on page 6, line 25; or "addition" page 9, line 1. The claims have now been amended to use "substituting" or "embedded" in deference to the Examiner's concerns.

Regarding claims 2-3, the Examiner cites page 8, lines 9-11, and page 9, lines 11-15, and states that there are two distinct definitions therein for a black auxiliary pixel and again for a white auxiliary pixel. This is not correct, both definitions apply. For example, a "black" auxiliary pixel is found exterior to an image shape, and is an "on" pixel in an otherwise "off" area within the bit map data context as described in the Applicant's specification.

The Examiner then states that with regard to claims 1-17 that the terms "auxiliary pixels" "black auxiliary pixels" and "white auxiliary pixels" are indefinite because the specification does not clearly redefine those terms. The Applicants must respectfully, but emphatically, traverse. The Applicants are indeed acting as their own lexicographer and go to considerable trouble repeatedly throughout the entirety of the specification, to define and clarify these terms. Please see for example: page 8, lines 7-16; page 8, lines 19-31; page 9, lines 1-20; and page 9, line 22, through page 10, line 3. In view of all of the above, the Examiner is urged to read the specification. Please. In the

alternative, the Examiner is requested to call the phone number below and discuss so that these terms may be explained and the support for their definition particularly pointed out.

Removal of the rejection of claims 1-17 under 35 U.S.C. §112 second paragraph is respectfully requested.

The Examiner has rejected claims 9, and 13, as being anticipated by Chung. Chung teaches that compensation for pixel aberrations in a laser printer is accomplished by altering pixels in accordance with pixel location. A projection of a scan line is skewed with respect to a line normal to the surface of an optical photoreceptor (OPR), which results in a change in the shape of projected pixels. Selected pixels are augmented in order to adjust their shape. The additional optical energy may be applied at the sub-pixel level so that a threshold of energy depletion on an optical photoreceptor (OPR) is not reached where image development would occur. Alternatively, the additional energy may be applied in a manner which provides additional development to simulate a pixel having a desired width across a scan line. The invention allows a scan line to be produced in which pixels across the scan line are made more uniform.

At column 7, lines 13-26, Chung describes the possibility of applying short duration energy pulses to areas surrounding a pixel for the purpose of enhancing that pixel. The enhancement is accomplished by applying short pulses to each adjacent pixel, resulting in a pixelation pattern. The selected center pixel is surrounded by pixels which are energized for short time periods. The short time periods are insufficient to result in enough depletion to create an image, but the depletion of these areas allows the imaging of center pixel to expand outwardly.

It is believed that the Applicants' claims as now amended overcome the Chung reference. While Chung describes the application of pixels which are energized for short time periods as surrounding a central pixel so as to enhance that single pixel, Chung fails to teach the application of auxiliary pixels embedded in a halftone cell, so as to mitigate edge displacement and halo print problems.

A §102 "anticipation" rejection requires that a single reference teach (i.e., identically describe) each and every element of the rejected claim. That is, §102 anticipation requires that all of the elements and limitations of the claim are found within a single prior art reference. Rejections under 35 U.S.C. §102 are proper only when the claimed subject matter is identically disclosed or described in the prior art. In other words, to constitute an anticipation, all material elements recited in a claim must be found in one unit of prior art. Chung does not teach auxiliary pixels embedded in halftone cells.

Allowance of claims 9 and 13 is respectfully requested.

Claims 1-3 are rejected under 35 U.S.C. §103(a) as being obvious over Tung in further view of Chung. Tung provides that print enhancement circuitry to enhance the printed image produced by a laser beam printer is interposed between the character generator circuits and the laser drive circuits to modify the laser drive signals provided by the character generator circuits. Bit data representing successive lines of the bit map for a desired image are stored in a first-in first-out (FIFO) buffer. The bit pattern sample window having a central cell (bit) and a selected (arbitrary) number of neighboring bits is compared to a number of matching bit patterns or templates, each of which is associated with an error element or cell. When a logic matching network detects a match, a modification signal associated with a unique compensation cell (bit) is generated. The sample window central bit is then replaced (modified) with the unique compensation bit required by the matching template. In this manner, all

bits in a desired bit map, or set of bit maps, are examined and their corresponding laser drive signals modified to compensate for the errors associated with the matched templates in a piece-wise manner.

Tung is well known to the Applicants. Tung teaches RET technology for reducing the effects of image jaggies. Nowhere in Tung is the embedding of pixels (of any type) into halftone cells to be found. The column and line citations provided by the Examiner in the office action point to discussions of template matching and not to a discussion of halftone cells. Tung fails to provide for what Chung lacks. Therefore, the prima facie case for an obviousness rejection has not been made out.

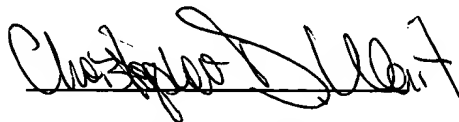
Allowance of claims 1-3 is respectfully requested.

Claims 4-8 are rejected under 35 U.S.C. §103(a) as being obvious over Tung and in further view of Chung and further in view of the Applicants' cited well-known prior art. Claims 10-12, and 15-17, are rejected under 35 U.S.C. §103(a) as being obvious over Chung and further in view of the Applicants' cited well-known prior art. Claim 14 is rejected as being obvious over Chung and in further view of Bracco. As claims 4-8, 10-12, and 14-17 depend from independent claims believed to be allowable these dependent claims should be allowed as well.

Allowance of claims 4-8, 10-12, and 14-17 is respectfully requested.

It is respectfully submitted that the present set of claims are patentably distinct over the cited references. In the event the Examiner considers personal contact advantageous to the disposition of this case, she is hereby requested to call the undersigned attorney at (585) 423-6918, Rochester, NY.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Christopher D. Wait", written over a horizontal line.

Christopher D. Wait  
Attorney for Applicant(s)  
Registration No. 43,230  
Telephone (585) 423-6918

March 29, 2004  
CDW/fsl  
Xerox Corporation  
Xerox Square 20A  
Rochester, New York 14644